



# AUA Diagnostic & Treatment Guidelines for IC/BPS

In 2011, the **American Urology Association (AUA)** released new, comprehensive guidelines to assist in the diagnosis and treatment of interstitial cystitis / bladder pain syndrome (IC/BPS). IC is defined as “*An unpleasant sensation (pain, pressure, discomfort) perceived to be related to the urinary bladder, associated with lower urinary tract symptoms of more than six weeks duration, in the absence of infection or other identifiable causes.*”

Pain is the hallmark symptom, particularly as the bladder fills with urine. Pain can also occur in the urethra, vulva, vagina, rectum and/or throughout the pelvis. Urinary frequency is found in 92% of patients with IC/BPS. Urgency is also common. IC patients struggling with urgency rush to the restroom to avoid and/or reduce pain. In overactive bladder (OAB), a condition often confused with IC, patients run to the restroom to avoid having an accident or becoming incontinent.

## Diagnostic Principles

Clinicians must first perform a thorough history and physical examination of the patient. Symptoms should be present at least six weeks in the absence of infection and positive urine cultures. An examination of the pelvis and pelvic floor muscles should also be completed to look for areas of tenderness and/or painful trigger points.

Several conditions should be ruled out, including bladder infection, bladder stones, vaginitis, prostatitis and, in patients with a history of smoking, bladder cancer.

Additional invasive testing, such as cystoscopy, urodynamics and hydrodistention, are NOT recommended unless the diagnosis is in doubt. Cystoscopy can help rule out other conditions that can mimic IC symptoms, such as bladder cancer or stones.

In a dramatic change, the AUA suggested that “*hydrodistention is not necessary for routine clinical use to establish a diagnosis of IC/BPS.*” If it is performed, the presence of Hunner’s ulcers on the bladder wall supports a diagnosis of IC. Hunner’s ulcers are described in an acute phase “*as an inflamed, friable, denuded area*” or in a more chronic phase “*blanched, non-bleeding area.*” The presence of “*glomerulations*” on the bladder wall is suggestive of but not specific to a diagnosis of IC because they can occur in other bladder conditions as well.

## Treatment Goals

Improving quality of life is the first goal of therapy. As various treatments are considered, the patient and physician should consider the risk of side effects and adverse events. Patients will often use multiple therapies

concurrently. As a rule, AUA suggests that treatment should begin with generally safe “*conservative*” therapies, such as oral medications and simple bladder instillations. If no improvement occurs, “*less conservative*” treatments that have more risk of side effects and adverse events can be explored, such as neuromodulation and Botox. Surgery is rarely utilized and only under specific circumstances because it is irreversible.

It is important for patients and their clinicians to track the progress of each treatment, usually with a voiding diary. Ineffective treatments should be stopped after a “*clinically meaningful interval.*” Only effective treatments should be continued.

If patients have not shown improvement in their symptoms after multiple treatments, the diagnosis of IC should be revisited to determine if another underlying disorder (i.e. such as pudendal nerve entrapment, endometriosis, etc.) could be present.

The AUA encourages prompt and proactive pain treatment. They offered “*Pain management should be continually assessed for effectiveness because of its importance to quality of life.*” Pain management can include the use of various medications, physical therapy and/or the relaxation of tense, painful muscles, biofeedback and a wide variety of other options. The guidelines encourage physicians to refer patients to other pain specialists if they are unable to provide an effective pain management strategy.

## Six Treatment Steps

### Step One: First-Line Treatments

- 1 Knowledge is Power** - Patients should learn how the bladder works, what is known about IC and the potential risks vs. benefits of the treatment options available. Multiple treatments may need to be tried before symptom relief occurs. Several helpful books are available.
- Self Help Works** - Patients learn, very quickly, that what they do each day has the potential of irritating or soothing their bladder and/or pelvic pain. The AUA encourages:
  - A. adequate water intake.**
  - B. diet modification** to avoid foods that trigger bladder irritation.
  - C. the use of heat or cold packs** over the bladder or perineum.
  - D. the use of over-the-counter products** that may help reduce symptoms such as: calcium glycerophosphate (Prelief), phenazopyridine (Azo Bladder Pain Relief Tablets / Pyridium) and various neutraceuticals.
  - E. the use of meditation**, guided imagery, pelvic floor relaxation and bladder training.
  - F. the practice good stress management** skills and, if needed, support from psychological professionals.
  - G. treatment for other sources of pain and discomfort**, such as constipation, IBS, endometriosis, panic, depression and vulvodynia symptoms.
  - H. Avoidance of activities** which can worsen symptoms temporarily such as tight clothing, sexual intercourse and kegel exercises.

## Step Two: Second-Line Treatments

- **Physical Therapy** - Physical therapy techniques should be used *“to resolve pelvic, abdominal and/or hip muscular trigger points, lengthen muscle contractures and release painful scars or other connective tissue restrictions.”* Kegel exercises and exercises aimed at strengthening the pelvic floor are NOT recommended because they increase rather than reduce muscle tension.
- **Pain Management** - Pain, when present, should be treated aggressively and evaluated at every clinical appointment. AUA does not discourage the use of narcotics. They state *“It is clear that many patients benefit from narcotic analgesia as part of a comprehensive program to manage pain.”* The use of pain medication alone does not constitute a sufficient treatment plan. Other therapies should be used as well.
- **Oral Medication Options**
  - A. Amitriptyline (aka Elavil)** has several studies reporting strong success in reducing IC symptoms yet side effects were highly likely, particularly sedation, drowsiness or nausea. Grade B
  - B. Cimetidine (aka Tagamet)** acts to inhibit acid production in the stomach. Two long term studies reported that 44% to 57% of patients experienced improvement in their symptoms with no adverse events reported. Grade B
  - C. Hydroxyzine (aka Vistaril, Atarax)** had mixed research studies, one of which reported that 92% of patients experienced improvement yet those participating patients also had systemic allergies. Other studies found much more modest effectiveness (i.e. 23%). Adverse events were common and generally not serious. Grade C
  - D. Pentosan polysulfate (aka Elmiron)** is the most studied medication currently use with five placebo controlled clinical trials. The results were clinically significant with 21 to 56% effectiveness. Roughly 10 to 20% of patients experienced side effects that were *“generally not serious.”* Pentosan may have a lower efficacy in treating patients with Hunner’s Ulcers. Grade B
- **Bladder Instillation Options**
  - A. DMSO (aka RIMSO-50)** - Several studies were reviewed with various levels of success ranging from 25% to 90%. *“If DMSO is used, then the panel suggests limiting instillation dwell time to 15-20 minutes”* because longer dwell times are associated with more significant pain. Grade C
  - B. Heparin instillations** - Several concentrations and treatment modalities have been studied. Adverse events were infrequent and apparently minor. Heparin is frequently combined lidocaine to create an instillation popularly known as a *“rescue instillation.”* Grade C
  - C. Lidocaine instillations** - The guidelines include several formulas for various cocktails that can be used, often including sodium bicarbonate, heparin, lidocaine and/or triamcinolone. Adverse events were typically not serious, earning this treatment option a Grade B.

## Step Three: Third-Line Treatments

- **Hydrodistention with cystoscopy** may be considered if first and second line treatments have provided no relief. The

- 3 panel ONLY recommends low-pressure (60-80 cm H2O), short duration (less than 10 minutes) procedures to reduce bladder rupture. Grade C
- **Hunner’s ulcers should be treated with fulguration** (laser or electrocautery) and/or by **injection of triamcinolone** into the ulcer. Grade C.

## Step Four: Fourth-Line Treatments

- 4 • **Neuromodulation** can occur at the sacral or pudendal nerve with studies confirming that pudendal stimulation appeared to provide greater symptom relief. (*Editors note: The non-surgical method, aka Urgent PC, is often attempted before the more invasive, surgical method, aka Interstim.*) Grade C

## Step Five: Fifth-Line Treatments

- 5 • **Cyclosporine A** has been studied in two small trials with IC patients with solid results. Unfortunately, there is potential for severe adverse events, including immunosuppression, nephrotoxicity, high blood pressure and increased serum creatinine. Grade C
- **Botulinum Toxin (BTX-A)** injections into the bladder may be considered if other therapies have not produced improvement, however *“the patient must be willing to accept the possibility that intermittent self-catheterization may be necessary-post treatment,”* often for several months. BTX is not appropriate for patients who cannot self-catheterize. Grade C

## Step Six: Sixth-Line Treatments

- 6 • **Surgical intervention**, such as urinary diversion, substitution cystoplasty or cystectomy, may be considered for patients who have found no relief with all other therapies and/or have developed a severe, unresponsive, fibrotic bladder. *“Patients must understand that symptom relief is not guaranteed. Pain can persist even after cystectomy, especially in nonulcer IC/BPS.”* Grade C

### Discontinued Treatments Should NOT Be Used!

- Long-term oral antibiotics
- Intravesical Bacillus Calmette Guerin (BCG)
- Intravesical Resiniferatoxin (RTX)
- High pressure, long duration hydrodistentions
- Systemic glucocorticoids

Grade A = well-conducted clinical trials and/or exceptionally strong observational studies.  
Grade B = clinical trials that have weaknesses in their procedures or generally strong observational studies.  
Grade C = observational studies that are inconsistent, small or have other problems which could influence the data.

Complete AUA Guidelines - <http://www.auanet.org>

